CLAIMS

What is claimed is:

1. A method of anchoring an IP flow comprising:

receiving the IP flow of a plurality of IP flows from a mobile node at an attached access router;

transferring the IP flow to an original access router, the original access router maintaining a host table associated with the mobile node; and

accessing a server attached to the original access router to service the IP flow.

2. The method of claim 1 further comprising maintaining a flow table at the mobile node identifying the original access router for the IP flow.

3. The method of claim 1 wherein the host table identifies a current address of the mobile node.

4. The method of claim 1 wherein the receiving the IP flow further comprises identifying the original access router from a packet of the IP flow.

5. The method of claim 1 further comprising the mobile node notifying the original access router of a new address after changing a point of connection.

6. The method of claim 1 further comprising:

assigning an identifier to the mobile node;

inserting the identifier into the host table;

inserting the identifier into the IP flow; and

utilizing a tunneling protocol between the original access router and the attached access router to identify the mobile node.

7. The method of claim 1 further comprising the mobile node notifying the original access router of a termination of the IP flow.

8. The method of claim 7 further comprising the access router deleting entries in the host table relating to the terminated IP flow.

9. The method of claim 1 further comprising the access router deleting entries in the host table relating to the IP flow after a pre-determined period of inactivity.

10. The method of claim 1 wherein the server attached to the original access router is a partially transparent server.

11. The method of claim 1 wherein the server attached to the original access router is a non-transparent server.

12. The method of claim 1 wherein the server attached to the original access router is a fully transparent server.

13. The method of claim 1 wherein the server is running NAT.

14. The method of claim 1 wherein the original access router is running NAT.

15. The method of claim 1 further comprising forwarding the IP flow to a correspondent node.

16. The method of claim 1 further comprising utilizing a tunneling header to maintain packet sequencing.

17. The method of claim 1 further comprising:

forwarding the IP flow transmitted by a connecting node to the attached access router by a home agent;

forwarding the IP flow to the original access router by the attached access router; and

transmitting the IP flow to the attached access router by the original access router.

18. A method of anchoring an IP flow comprising:

receiving the IP flow of a plurality of IP flows from a mobile node at an attached access router;

forwarding the IP flow to an original access router;

transmitting the IP flow to a home agent associated with the mobile node, the home agent maintaining a flow table associated with the mobile node; and

forwarding the IP flow to a connecting node.

19. The method of claim 18 wherein the flow table contains an address of the original access router of the mobile node.

20. The method of claim 18 further comprising forwarding the IP flow to a care of address of the mobile node maintained in the flow table.

21. The method of claim 18 further comprising the mobile node notifying the home agent of a termination of the IP flow.

22. The method of claim 18 further comprising the home agent deleting entries in the flow table relating to the IP flow after a pre-determined period of inactivity.

23. The method of claim 18 wherein the mobile node is attached to the attached access node and the original access node simultaneously.

24. The method of claim 18 further comprising accessing a server attached to the original access node to service the IP flow.

25. The method of claim 24 wherein the server is a partially transparent server.

26. The method of claim 24 wherein the original access router relates an IP address of the server with the home agent via a static configuration.

27. The method of claim 24 wherein the original access router proxies a network on behalf of the home agent.

28. The method of claim 24 wherein the original access router proxies a network on behalf of the server.

29. The method of claim 18 wherein the original access router monitors networks messages for a home agent IP address and a mobile node IP address.

30. The method of claim 18 wherein the original access router utilizes a configuration server to determine a home agent IP address and a mobile node IP address.

31. A method of anchoring IP flows comprising:

establishing a first flow table at an attached access router identifying an original access router for each IP flow of a plurality of IP flows;

receiving an IP flow of the plurality of IP flows at the attached access router from a mobile node;

determining the original access router for the IP flow; and

forwarding the IP flow to the original access router.

32. The method of claim 31 further comprising establishing a second flow table at the original access router identifying the attached access router for each IP flow of the plurality of IP flows.

33. The method of claim 31 further comprising the original access router transmitting entries associated with the IP flow in the second flow table to the attached access router upon the mobile node changing its point of connection to the attached access router.

34. The method of claim 32 further comprising the attached access router notifying the original access router of its address and the original access router storing the address in the second flow table.

35. The method of claim 31 further comprising accessing a server attached to the original access node to service the IP flow.

36. The method of claim 35 wherein the server is a partially transparent server.

37. The method of claim 31 further comprising transferring the IP flow to a connecting node.

38. The method of claim 31 wherein the original access router is running NAT.

39. A method of anchoring IP flows comprising:

moving a mobile node from an original access router to an attached access router;

notifying a central node of the moving of the mobile node; and

notifying the attached access router of an address of the original access router.

40. The method of claim 39 wherein the notifying the central node of the moving the mobile node is performed by the attached access router by sending a notification message.

41. The method of claim 39 wherein the notifying the attached access router is performed by the central node.

42. The method of claim 39 further comprising the central node deleting the original access router from a list upon receiving a notification that an IP flow terminated at the original access router.

43. A method of anchoring an IP flow comprising:

receiving the IP flow from a mobile node at an attached access router;

routing the IP flow from the attached access router to an original access router, the attached access router not diverting the IP flow through its attached server; and

diverting the IP flow through an original access router's attached server.

44. The method of claim 43 further comprising maintaining a flow table at the mobile node identifying the original access router for the IP flow.

45. The method of claim 43 wherein the receiving the IP flow further comprises identifying the original access router from a packet of the IP flow.

46. The method of claim 43 wherein the access router's attached server is a partially transparent server.

47. An apparatus for anchoring an IP flow comprising:

means for receiving the IP flow of a plurality of IP flows from a mobile node at an attached access router;

means for transferring the IP flow to an original access router, the original access router maintaining a host table associated with the mobile node; and

means for accessing a server attached to the original access router to service the IP flow.

48. The apparatus of claim 47 further comprising:

means for transmitting the IP flow to a home agent associated with the mobile node, the home agent maintaining a flow table associated with the mobile node; and

means for forwarding the IP flow to a connecting node.

49. The apparatus of claim 47 further comprising:

means for establishing a flow table at the attached access router identifying the original access router for the IP flow;

means for determining the original access router for the IP flow.

50. An apparatus for anchoring an IP flow comprising:

a first access router configured to receive the IP flow of a plurality of IP flows from a mobile node, the mobile node being attached to the first access router;

a second access router configured to receive the IP flow from the first access router, the second access router further configured to maintain a host table associated with the mobile node; and

a server configured to service the IP flow, the server being attached to the original access router.

51. The apparatus of claim 50 further comprising a home agent configured to receive the IP flow from the original access router.

52. The apparatus of claim 51 further comprising a connecting node configured to receive the IP flow transmitted by the home agent.

53. The apparatus of claim 51 wherein the home agent is further configured to maintain a flow table associated with the mobile node.

54. The apparatus of claim 50 wherein the server is a partially transparent server.